

REMARKS

The Office Action dated December 10, 2009, has been received and carefully noted. The above amendments and following remarks are being submitted as a full and complete response thereto. Claims 1-3, 6-9 and 19-20 are pending in this application and claims 10-18 are withdrawn. By this Amendment, claims 1 and 19 are amended. Support for the amendments to the claims can be found in the Specification at, for example, page 16, lines 3-16 and at paragraph [0026]. Reconsideration of the rejection of the claims is respectfully requested.

The Office Action rejects claims 1-3, 6-9 and 19-20 under 35 U.S.C. § 103(a) as being obvious over Ishibashi (U.S. Patent No. 6,375,756) in view of Bridges (U.S. Patent No. 5,012,868) and Reale (U.S. Patent No. 5,451,754). The rejection is respectfully traversed.

In particular, the above-identified application claims a self-cleaning catalytic chemical vapor deposition apparatus that includes a power supply to apply a bias voltage to a resistance heated catalytic body, a changeover switch that changes the polarity of the bias voltage, a cleaning gas that includes one of a reducing gas or an inert gas, a gas-supply port through which the cleaning gas is introduced in the reaction chamber, and means for setting the bias voltage applied to the catalytic body, and the polarity of the bias voltage, upon removing the adhering film, wherein the cleaning gas removes an adhering film while suppressing etching of the catalytic body itself when the cleaning gas comes into contact with the resistance heated catalytic body, and wherein the catalytic body has a temperature maintained at about 1700 °C during substantially

an entire duration of self-cleaning, and the changeover switch changes the polarity of the set bias voltage based on a kind of the inert gas and the reducing gas, as recited in amended claims 1 and 19.

Ishibashi teaches a “method for efficiently and completely removing a film deposited inside a film forming chamber and an in-situ cleaning method of a hot element CVD apparatus” (Abstract). Ishibashi also teaches that the cleaning gas includes various halogens (Col. 10, lines 30-36 and 49-55; Col. 4, lines 20-26), but there is no teaching anywhere in Ishibashi that the cleaning gas includes one of a reducing gas and an inert gas, as recited in amended claims 1 and 9. Although Ishibashi teaches a gas that includes hydrogen (Col. 5, lines 33-37), which may be interpreted as a reducing gas, the gas in question is a material gas used to form a silicon film, not the cleaning gas used to perform the cleaning process. Accordingly, Ishibashi fails to disclose or suggest at least this claimed feature.

In the section titled “Response to Arguments,” the Office Action asserts that “[T]he apparatus does not include gas” (emphasis in original; Office Action, page 7, line 2). The Patent Office is alone attempting to define Applicants’ invention. Applicants remind the Patent Office that the claimed invention is that of a self-cleaning catalytic apparatus. If the Patent Office was correct and the apparatus did not include the cleaning gas, then the apparatus should be able to self-clean without a cleaning gas, which is incorrect. Applicants respectfully submit that in the claimed self-cleaning apparatus, the self-cleaning is performed, as indicated in the Specification, via the use of the claimed cleaning gas. In other words, there is no “self-cleaning” of the apparatus

without the cleaning gas. As such, the cleaning gas is an integral part of the self-cleaning apparatus. The Patent Office insists in ignoring an affirmatively recited feature that is an integral part of the apparatus, which is improper.

The Office Action admits that Ishibashi fails to teach the claimed feature of setting the bias voltage (Office Action, page 4, lines 18-21), and relies on Bridges to cure this deficiency (Office Action, page 5, lines 7-14). Bridges teaches applying a "low D.C. bias voltage to the heating circuit...to inhibit corrosion of the downhole heating electrode" (Col. 4, lines 1-4). However, a closer examination of Bridges reveals that Bridges does not teach that the D.C. bias voltage is applied upon removing an adhering film. Accordingly, there is no teaching in Bridges of means for setting the bias voltage and the polarity of the bias voltage upon removing the adhering film, as recited in the amended claims.

With respect to the claimed feature of the temperature being maintained at about 1700 °C during substantially an entire duration of self-cleaning, the Office Action asserts that such a feature is taught in Bridges "as long as the hot element is capable of being heated to" the claimed temperature (Office Action, page 3, lines 10-13). Applicants submit that regardless of whether the hot element is "capable" of being heated, and Applicants note that any structure is "capable" of being heated, there is no teaching in Ishibashi, or in any other reference, of the specifically recited feature of the temperature being maintained at about 1700 °C during substantially an entire duration of self-cleaning. Accordingly, at least this feature is patentable over the applied references.

Additionally, the Patent Office argues that “[a]n apparatus of the combined reference is also capable of using other type of the gases than Applicants’ claim” (*sic*). Applicants respectfully submit that whether the applied references are “capable” of having other types of gases is irrelevant to a finding of obviousness (Office Action, page 3, lines 7-9).

The current legal standard for obviousness is whether there is a rationale for using the claimed gas, not whether a prior art apparatus is “capable” of using the claimed gas. Absent a clearly articulated rationale, the claimed cleaning gas that includes one of a reducing gas and an inert gas is non-obvious over the applied references.

It also appears that the argument of the Patent Office may be an argument of inherency. Should the Patent Office rely on a theory of inherency, the Patent Office did not identify any reason for which the teachings of the applied references would necessarily result in the claimed invention, which is the legal standard for a finding of inherency. Absent such a reason, no inherency can be found based on the teachings of the applied references.

For at least the reasons discussed above, the claimed cleaning gas being an integral part of the apparatus, Ishibashi fails to disclose or suggest a cleaning gas that includes one of a reducing gas or an inert gas, as recited in amended claims 1 and 19.

For at least a combination of the reasons above, Applicants submit that Ishibashi fails to disclose or suggest all the features of amended claims 1 and 19.

With respect to the combination of additional references, the Office Action relies on both Bridges and Reale to disclose or suggest a power supply to apply a bias voltage to the catalytic body and a changeover switch that changes the polarity of the bias voltage. Bridges teaches a method and apparatus for corrosion inhibition in an electromagnetic heating system for heating a portion of a mineral fluid deposit adjacent an oil well or other mineral fluid well, *in situ* (Abstract). Reale teaches a corona generating device for depositing a negative charge on an imaging surface carried on a conductive substrate held at a reference potential (Abstract).

However, neither Bridges nor Reale cure the above-discussed deficiencies in Ishibashi in disclosing or rendering obvious at least a combination of the above-discussed features of amended claims 1 and 19.

For at least a combination of the above reasons, a combination of the applied references fails to arrive at the subject matter of independent claims 1 and 19. Accordingly, independent claims 1 and 19, and dependent claims 2-3, 6-9 and 20, are patentable over all of the applied references, and withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully requested.

Should the Examiner determine that any further action is necessary to place this application into better form for allowance, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, referencing Attorney Docket No. 029567-00010.

Respectfully submitted,



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